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DRAWINGS ATTACHED

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## (54) DOUBLE WALLED DRINKING CUP

(71) We, MONO CONTAINERS LIMITED, a Company registered under the Laws of Great Britain, of Malt House, Field End Road, Eastcote, Ruislip, Middlesex, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to double walled drinking cups formed from sheet plastics material. Frequently the material will be high impact sheet polystyrene and normally the cups will be deep drawn by a vacuum method from heated sheet material.

According to the present invention a double walled cup has its double wall formed by virtue of having an inner and an outer each of sheet material formed with a bottom and a side wall, the two side walls being spaced apart to leave an insulating region to prevent too easy transfer of heat from the inside to the outside of the cup or vice versa, the two bottoms being spaced from one another in a region adjacent the bottom of the side walls and the two bottoms being in contact at their centres.

Reference may also be made to our copending Application No. 693/68 (Serial No. 1,261,531) from which this application has been divided. That application describes and claims a double walled cup having its double wall formed by virtue of having an inner and an outer each of sheet material formed with a bottom and a side wall, the two side walls being spaced apart to leave an insulating region to prevent too easy transfer of heat from the inside to the outside of the cup or vice versa, and the two bottoms being in contact with one another over a major part of their area.

Reference may also be made to our copending Application No. 36234/67 (Serial No. 1,261,532) which describes and claims a double walled cup having its double wall formed by virtue of having an inner and an outer each of sheet material formed with a bottom and a side wall, the two side walls being spaced apart to leave an insulating region to prevent too easy transfer of heat from the inside to the outside of the cup or vice versa, the bottom of the side wall of the inner being in contact with the side wall of the outer to provide location between inner and outer laterally of the cup axis, and the bottom of the inner being spaced from the bottom of the outer in a region near the bottoms of the side walls to provide an insulating space.

The invention may be carried into practice in various ways and three embodiments will now be described by way of example with reference to the accompanying drawings, of which:—

Figure 1 shows in section a double walled drinking cup; and

Figures 2 and 3 show details of alternative forms of cup.

The cup shown in Figure 1 is a double walled cup having an outer 11 and an inner 12 each formed from high impact sheet polystyrene by vacuum deep drawing. The outer has a slightly outwardly turned flange 13 at the top and the inner has a curled over rim 14 which engages under the flange 13 to hold the parts together, and leave an air space 15 between the side walls. The bottom 10 of the inner is substantially flat while the bottom 17 of the outer is concave. The bottoms 16 and 17 are in contact at their centres but spaced apart adjacent the side walls to form an insulating space 22.

The inner has an inward horizontal shoulder 18; the side wall 19 below the shoulder extends downwardly and outwardly to join a portion 20 in contact with the lower part of the side wall of the outer.

It can be seen that a nesting cup will rest in the lower cup by virtue of the

bottom of the outer being seated on the shoulder 18.

Figures 2 and 3 show similar cups; the inner 12 is in contact with the outer 11 at the centre of their bottoms and the inner is in contact with the outer around its lower edge. The bottom corner of a nesting cup can rest on the shoulders formed on the inner of a lower cup.

Our earlier Specification No. 1,167,861 claims in Claim 7:—

An open mouthed double-walled container comprising two cups, an inner and an outer separately formed from sheet material and held together at the mouth, the inner including an internal shoulder near the bottom and the outer including an external shoulder so arranged that the internal shoulder will engage the external shoulder of a nested similar container: the outer of the container making no engagement with the underside of the internal shoulder, and the inner being spaced from the side wall of the outer at least from the level of the internal shoulder down to the bottom of the outer and being spaced from at least the portion of the bottom wall of the outer adjacent to the side of the outer, and in which the bottom of the outer is concave so that it can stand on a flat surface making contact only at its rim, and in which the bottom of the inner is also concave and rests on the concave bottom of the outer away from the rim.

The contents of that claim is disclaimed from the present claims.

Subject to the foregoing disclaimer

WHAT WE CLAIM IS:—

1. A double walled cup having its double wall formed by virtue of having an inner and an outer each of sheet material formed with a bottom and a side wall, the two side walls being spaced apart to leave an insulating region to prevent too easy transfer of heat from the inside to the outside of the cup or vice versa, the two bottoms being spaced from one another in a region adjacent the bottom of the side walls and the two bottoms being in contact at their centres.

2. A cup as claimed in Claim 1 in which the inner and the outer are in line or area contact at or near the bottoms of the side walls.

3. A cup as claimed in Claim 1 or Claim 2 in which the inner has an inwardly directed shoulder for supporting the bottom of the outer of a similar cup nested within the said cup.

4. A cup as claimed in Claim 3 in which the shoulder is formed at the top of an inwardly and upwardly directed portion of the side wall of the inner.

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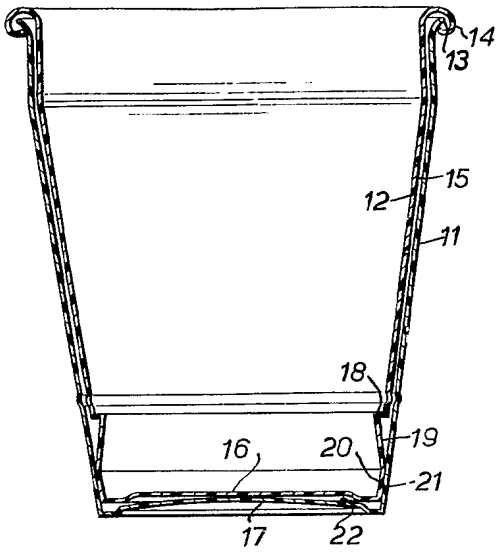


FIG. 1.

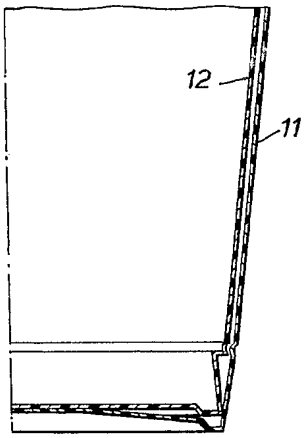


FIG. 2.

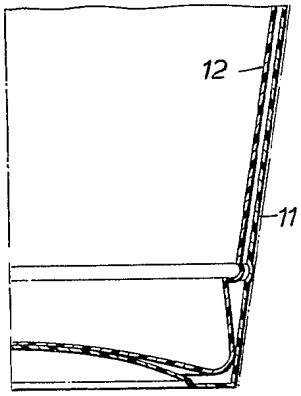


FIG. 3.